

**BALABAN & SPIELBERGER, LLP**  
11999 San Vicente Blvd., Suite 345  
Los Angeles, CA 90049  
Tel: (424) 832-7677  
Fax: (424) 832-7702  
Daniel K. Balaban, SBN 243652  
Andrew J. Spielberger, SBN 120231  
Vanessa L. Loftus-Brewer, SBN 265213

**LAW OFFICES OF TERESA LI, PC**  
315 Montgomery Street, 9th Floor  
San Francisco, California 94104  
Tel: (415) 423-3377  
Fax: (888) 646-5493  
Teresa Li, SBN 278779

Attorneys for Plaintiffs

**UNITED STATES DISTRICT COURT  
CENTRAL DISTRICT OF CALIFORNIA**

RUBEN JUAREZ, an individual and  
ISELA HERNANDEZ, an individual

Plaintiffs,

v.

PRECISION VALVE & AUTOMATION,  
Inc., a corporation and DOES 1-20

Defendants.

**Case No.: 2:17-cv-03342**

**DECLARATION OF GLEN STEVICK  
IN SUPPORT OF PLAINTIFFS'  
OPPOSITION TO DEFENDANT  
PRECISION VALVE &  
AUTOMATION, INC.'S MOTION FOR  
SUMMARY JUDGMENT**

Date: October 1, 2018

Time: 1:30 p.m.

Ctrm: 5D, 5th Floor

Judge: Hon. Otis D. Wright II

**DECLARATION OF GLEN STEVICK Ph.D., P.E.**

I, Glen Stevick, Ph.D., P.E., being duly sworn hereby state under the penalty of perjury:

1. I make the following statements based upon my personal knowledge, and my personal review of the evidence and documents in connection with the above-captioned matter. If called as a witness, I can and will competently testify to each of the following matters.

2. I hold an M.S. degree and a Ph.D. degree in Mechanical Engineering from the University of California, Berkeley. I completed my Ph.D in 1993 majoring in material behavior and design, and minoring in structural analysis and dynamics and controls (electronic controls). I also hold a B.S. degree in Mechanical Engineering from Michigan Technological University.

3. From January of 1986 to the present, I have worked as a Mechanical Engineering Consultant, and I am a principal and the Director of Berkeley Engineering and Research, Inc. I work in the areas of failure analysis, design and risk assessment of consumer and industrial equipment including piping systems, pumps, valves, steam system components, and other related equipment for a wide variety of industries.

4. I am a member of the American Society of Civil and Mechanical Engineers (ASME and ASCE), and a registered professional engineer in the states of California, Nevada, Texas and Louisiana. A copy of my curriculum vitae is attached hereto as Exhibit "A."

5. As a mechanical engineer, I have further specialties in the fields of risk assessment, risk management, materials, material behavior and sensing devices (wired and wireless) to indicate hazard and damage in pressure containing equipment, power plants, heating systems, and piping distribution systems. I have designed, performed

1 risk assessments and failure analyses on numerous industrial systems. I have testified in  
2 dozens of cases regarding product design defects and equipment risk assessment. I have  
3 offered numerous opinions on alternative product redesigns to affordably and  
4 effectively design-out product defects including material change recommendations. I  
5 have testified in the field of mechanical engineering on a number of occasions as an  
6 expert in courts in the states of Alaska, California, Florida, Louisiana, Nevada, and  
7 New York, the territory of Puerto Rico, Canada and England. I am well versed in  
8 various systems and the engineering standard of care in these systems. In addition, I  
9 have participated in the risk mitigation of numerous facilities and structures (e.g. the  
10 Alaska Pipeline, the Golden Gate Bridge and processing plants and pipelines across the  
11 country) and investigated numerous large and small industrial and consumer accidents  
12 (the San Bruno Gas pipeline explosion, the Deepwater Horizon Macondo well blowout  
13 in the Gulf of Mexico, and dozens of smaller container explosions with a variety of  
14 stored gases and fluids, including gasoline, alcohol, oxygen, air, water, etc.).

15         6         My opinions are given in the following paragraphs based upon my  
16 personal involvement in the investigation of the subject incident, including my review  
17 of relevant records, deposition transcripts and photographs of the physical evidence. All  
18 of my opinions rendered in this declaration are made with a reasonable degree of  
19 engineering certainty. This declaration does not contain all of the opinions that I hold  
20 in this case and I reserve the right to supplement my opinions, if and when, additional  
21 information becomes available. In formulating my opinions, I specifically have  
22 reviewed the following materials: the deposition of Ruben Juarez as well as all exhibits  
23 including brochures, comparison charts, and the PVA Inc. promotional materials,  
24 videos of conformal coating process, video of the demonstration in April at PVA Inc. of  
25 the conformal coating process, the declarations submitted in support of PVA Inc.'s  
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1 Motion for Summary Judgment as well as the supporting exhibits, and the Declarations  
2 in Support of Plaintiffs' Opposition to the Defendant's Motion.

3 7. The subject machine, a PVA 350, was manufactured, designed, and sold  
4 by PVA Inc. The purpose of the subject machine was to safely coat circuit boards with  
5 a layer of coating material after which the circuit boards were to be placed inside  
6 rockets. This coating process was completed to ensure there were no electrical sparks  
7 on the circuit board that could result in an explosion inside the rocket. The subject  
8 machine was defective as set forth below.

9 8. PVA Inc. also manufactures a number of other PVA models for larger  
10 operations and plant conformal coating operations as well as small hand-held machines.  
11 Each PVA model machine is different, and the PVA 350 machine does not contain vital  
12 safety features for its intended purposes as on other models including a conveyor belt, a  
13 heightened above-board clearance inside the machine, an exhaust blower (also known as a  
14 PVA Blower), flow monitoring, additional chemical supply heads, and an external on  
15 board computer. Each was readily available at the time of the manufacture of the  
16 subject machine.

17 9. Following the sale of the PVA 350 machine, the purchasers and their  
18 designated employees undergo training to learn how to operate the PVA machines.  
19 Based on the statements of Ruben Juarez, he was trained by PVA Inc. to put his head  
20 inside the PVA 350 machine without a ventilation mask. The PVA manual does not  
21 warn individuals working the PVA machines to wear facemasks with ventilators.  
22 Further, based on the dimensions of the machine, the use of the PVA 350 machine with  
23 a ventilation face mask is not feasible. However, other PVA models are taller and thus  
24 users are able to utilize a ventilation face mask inside those machines.

25 10. After installing the machine, PVA Inc. continued to service the machine,  
26 make modifications to the machine, and assist Space X to make modifications to the  
27

1 machine. Unfortunately, this additional work occurred without ensuring the safety of  
2 the intended end users. Indeed, PVA Inc. through its continued support and  
3 maintenance of the machine knew of Space X's use of toxic sealants in the conformal  
4 coating process.

5 11. It is the custom and practice for manufactures to anticipate a reasonable  
6 degree of misuse and take this into account in designing their product. As such, PVA  
7 Inc. has a duty to protect end users from anticipatable misuse.

8 12. It is my opinion that the PVA 350 was defectively designed as the risk of  
9 the design outweighed any potential benefits and also a reasonable consumer would not  
10 expect to be harmed while using the PVA 350 as instructed. Additionally, PVA Inc.  
11 failed to warn about the dangers of using the machine. This opinion is based on the  
12 photographs of the machine, the PVA manual, videos of the conformal coating process,  
13 email exchanges between PVA Inc. and Space X, the depositions taken in this matter,  
14 the design of the PVA 350, the dimensions of the PVA 350, the lack of adequate safety  
15 warnings of the PVA 350, the promotional materials, the documents produced in  
16 discovery, the designs of other PVA machines, the declarations submitted in this  
17 matter, pertinent records, invoices, work order modifications, which show PVA Inc.  
18 was aware how the machine was being utilized and did not take steps to ensure the  
19 safety of the end users.

20 13. Specifically, my opinion of the PVA 350 is defective in design because  
21 PVA Inc. should have taken steps during the manufacturing and design process to  
22 mitigate the risk of harmful exposure by foreseeable use of the end users including the  
23 various available coating chemicals. This could have been easily done by:

24 (i) altering the design of the PVA 350 so that the interior can be monitored  
25 with cameras and/or mirrors so that the end user need not place their head within the  
26 confined space;

1 (ii) equipping the PVA 350 with interlocks that prevent the operation of the  
2 PVA 350 unless the ventilation system is operating. Air flow sensors are commonly  
3 used to ensure ventilation systems are operating;

4 (iii) equipping the PVA 350 with interlocks that prevent opening the PVA 350  
5 until the ventilation system has cleared the interior airspace of the PVA 350 of harmful  
6 vapors. This is commonly done with timers and/or chemical sensors;  
7 and,

8 (iv) eliminating possible overriding systems of bypass/interlocks at the PVA  
9 350.

10 14. PVA Inc. likewise failed to provide proper warnings to its end users as to  
11 the use of toxic materials and proper ventilation/protection. Specifically, the PVA 350  
12 failed to have an adequate warning because PVA Inc. failed to take steps to warn its  
13 customers and end users that the PVA 350 machine could leak toxic chemicals or  
14 exposure could occur while using the PVA 350. PVA Inc. should have provided  
15 warnings and instruction that the PVA 350 should thus either not be utilized with  
16 dangerous chemicals -- and a more robust model would be more suitable for use with  
17 Space X; or the end user must use breathing protection during its operation.

18 15. It is my opinion that PVA Inc. was negligent in the manufacture, design,  
19 testing, warnings, sale, and service of the PVA Inc. 350. As PVA Inc. knew, the PVA  
20 350 Inc. lacked various safety features, PVA Inc. failed to adequately train and warn end  
21 users of the danger in their operation manual, during training sessions, or on the  
22 machine itself. Further, PVA Inc. knew how Space X was utilizing the machine and  
23 the chemicals utilized during the conformal coating process, but PVA Inc. failed to  
24 provide sufficient safety features or warn of the danger and thus the PVA 350 caused  
25 dangerous and possibly life-threatening exposure and injures. PVA Inc. should have  
26 never sold this PVA 350 to Space X because it was involved in the avionics industry  
27

1 which often requires the use of dangerous chemicals in the coating process, but PVA  
2 Inc. sold and maintained this machine while in the service of Space X with the  
3 knowledge that the end users could easily be injured.

4 16. It is further my opinion that the PVA 350 was defective because it lacked  
5 adequate warnings and the only warning on the device pertained to the voltage hazard.  
6 Specifically, there needed to be a warning of the risk of serious injury or death if an end  
7 user uses this machine in the avionics industry due to the use of the dangerous  
8 chemicals used in the conformal coating process. Further, PVA Inc. failed to  
9 adequately design and train its employees – and hence its end users -- how to safely  
10 utilize the bypass system. Further, PVA Inc. failed to equip the PVA 350 with design  
11 protections, and failed to warn users how to safely operate the machine. It was clearly  
12 foreseeable that end users such as those in the Avionics industry would utilize the PVA  
13 350 with dangerous chemicals utilized in the conformal coating process, and PVA Inc.  
14 was aware of the specific chemicals being utilized by Space X as stated in the  
15 emails/Declarations. There should have been a stamp on the PVA 350 as well as a  
16 hardcopy set of instructions in the box specifically warning customers not to use the  
17 PVA 350 with dangerous chemicals commonly utilized in the avionics conformal  
18 coating process, or PVA should have provided sufficient safety measures to ensure its  
19 safe operating conditions under these circumstances.

20 17. I declare under penalty of perjury under the laws of the State of California  
21 that the foregoing is true and correct.

22 Executed this 9th day of September, 2018, at Berkeley, California.

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25 GLEN STEVICK, Ph.D., P.E